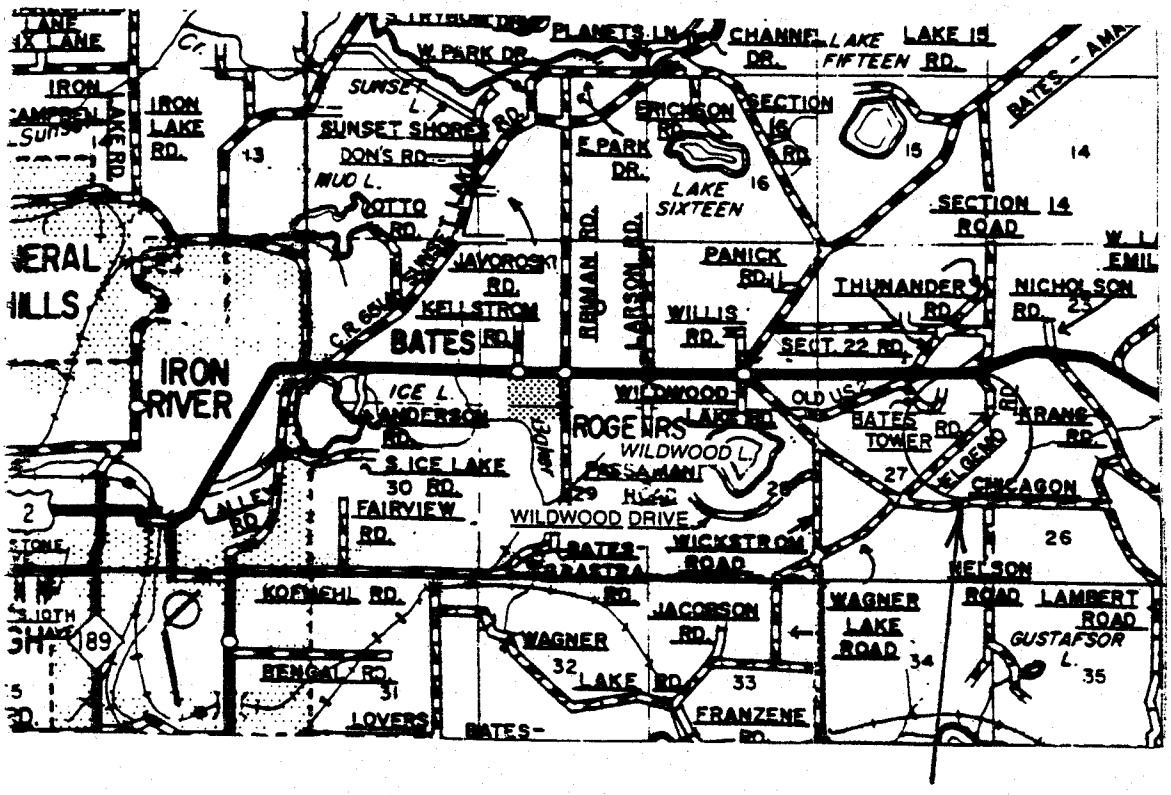
# IRON COUNTY ROAD COMMISSION
IN COOPERATION WITH
## US ARMY CORPS of ENGINEERS

HELGEMO ROAD - BATES TOWNSHIP
4 miles EAST OF IRON RIVER CITY LIMITS
US ARMY CORPS of ENGINEERS - SITE #7

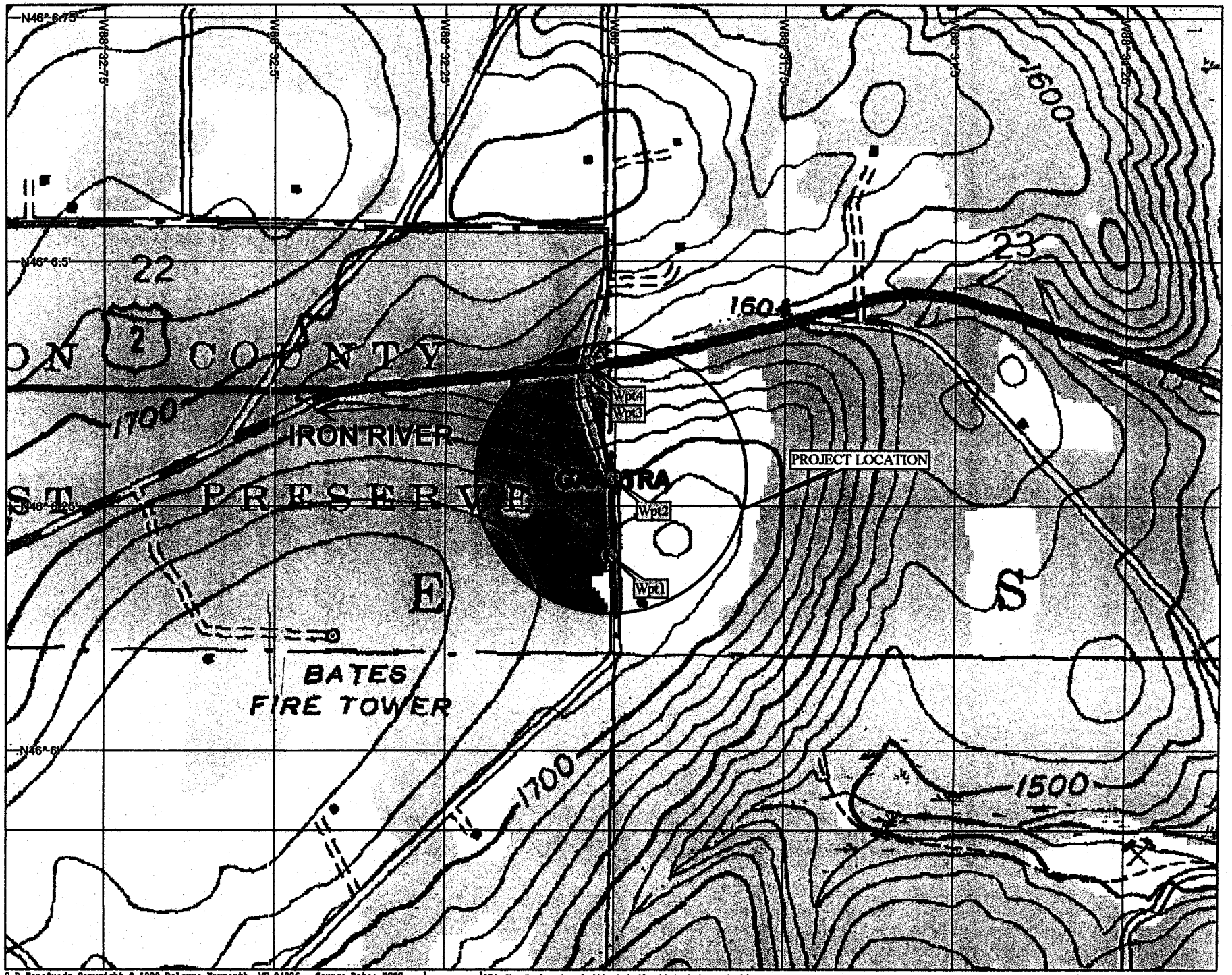


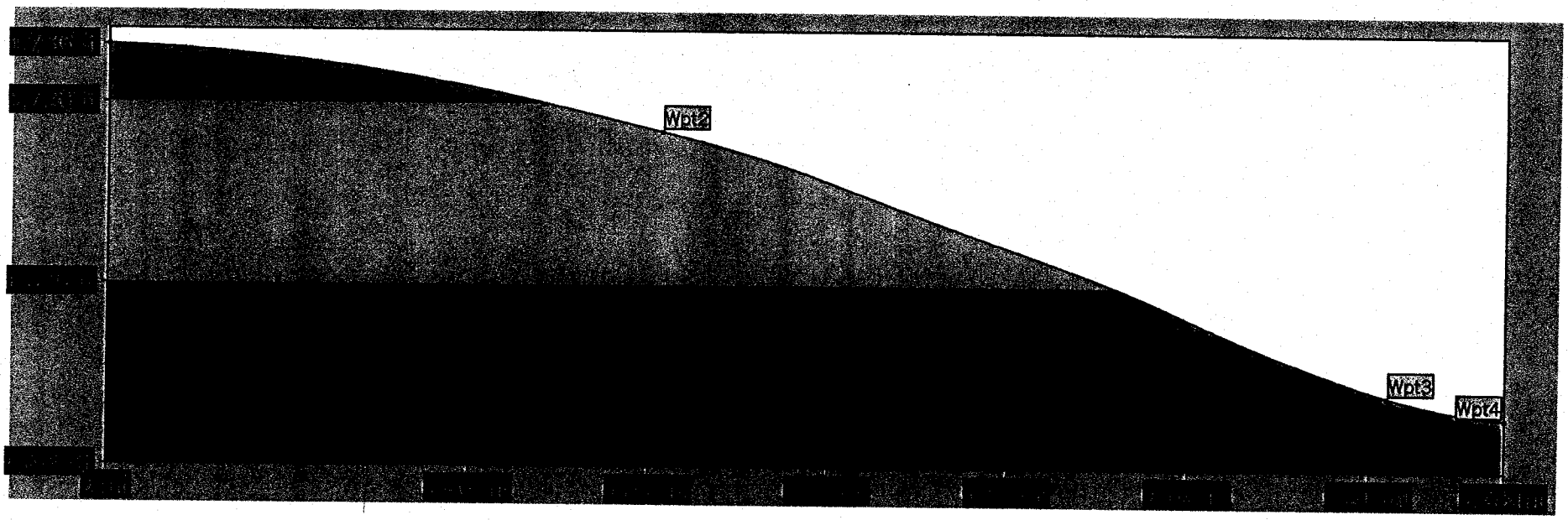

**PROJECT LOCATION**

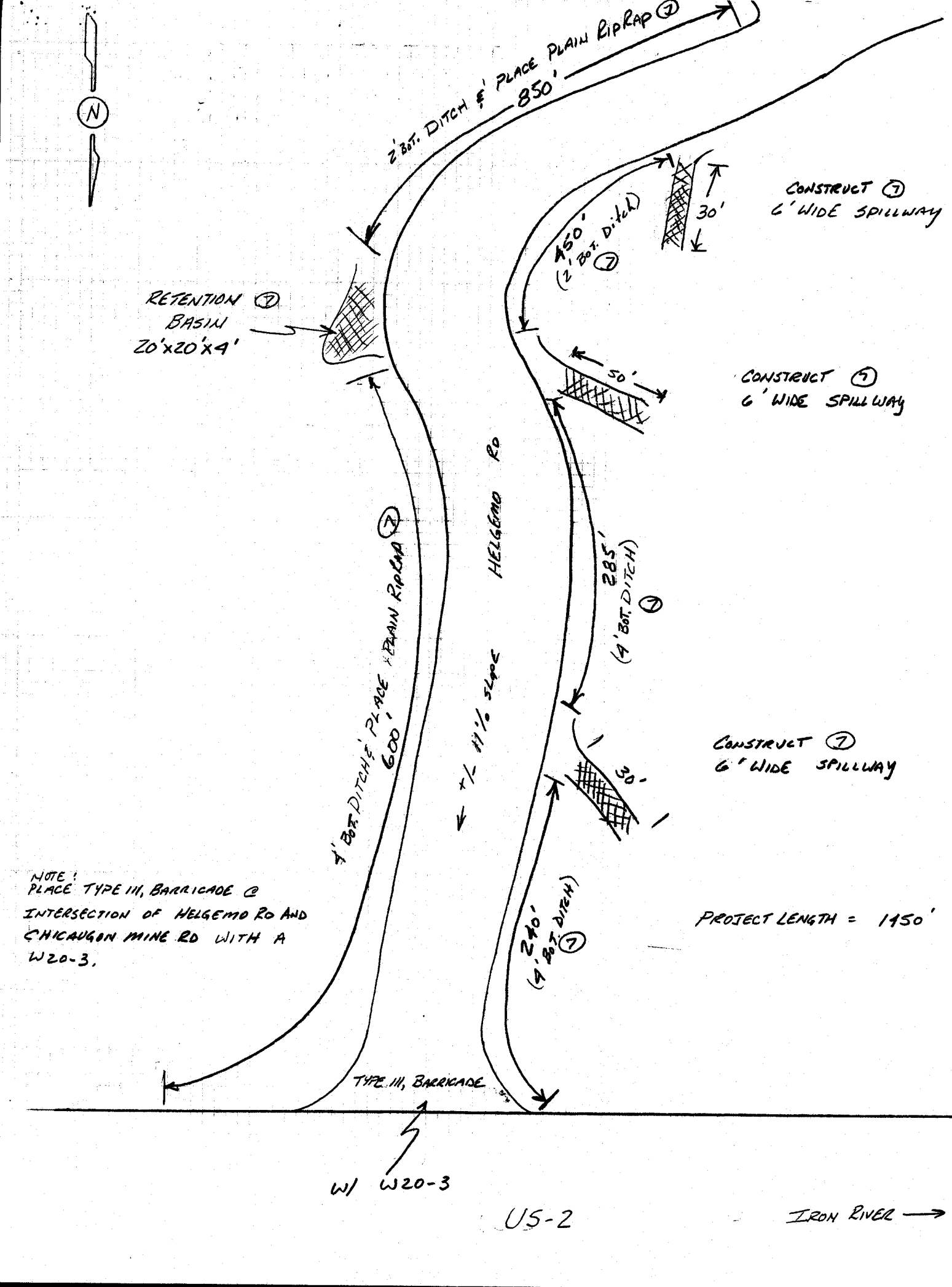
CONTRACT FOR: DITCHING, RIPRAP, AND SURFACING

Prepared under the Supervision of
**Douglas C. Tomasoski**
REGISTERED ENGINEER
DATE:_____

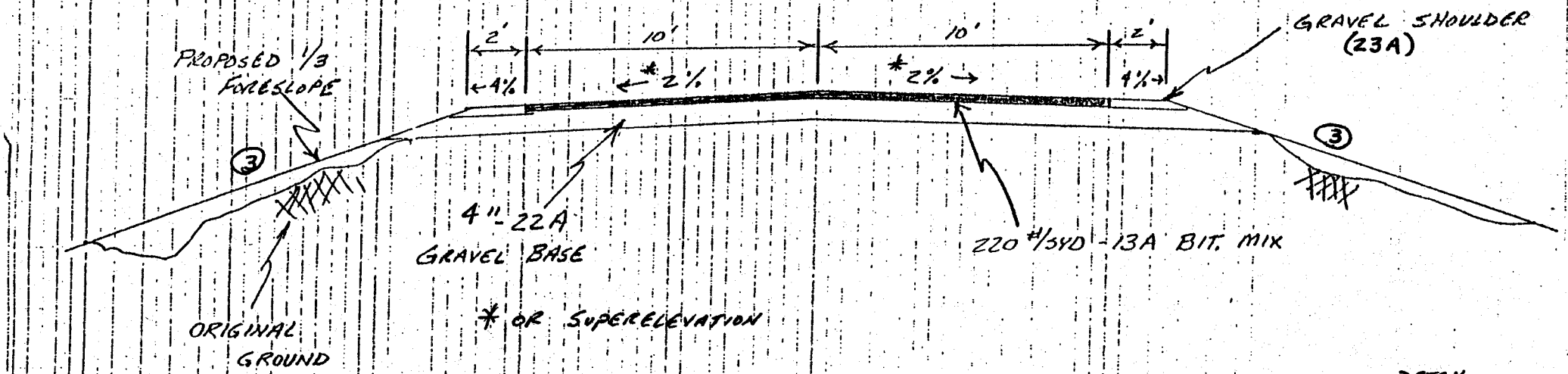
REG. NO. 36912


N46°6.75'
N46°6.5'
N46°6.25'
N46°6'
W88°32.75'
W88°32.5'
W88°32.25'
W88°32'
W88°31.75'
W88°31.5'
W88°31.25'
22
23
2
1600
1700
1700
1500
IRON RIVER
PROJECT LOCATION
Wpt4
Wpt3
Wpt2
Wpt1
BATES
FIRE TOWER
E
S
3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS
350 ft Scale: 1 : 9,600 Detail: 14-1 Datum: WGS84



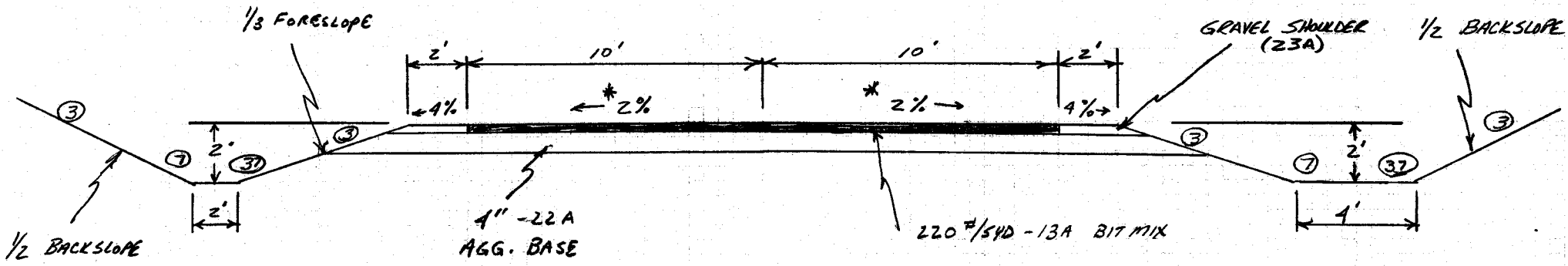

N
2' BOT. DITCH & PLACE PLAIN RIPRAP (7)
850'
CONSTRUCT (7) 6' WIDE SPILLWAY
30'
450' (2' BOT. DITCH) (7)
RETENTION (7) BASIN 20'x20'x4'
50'
CONSTRUCT (7) 6' WIDE SPILLWAY
HELGEMO RD
+/- 11% SLOPE
285' (4' BOT. DITCH) (7)
4' BOT. DITCH & PLACE PLAIN RIPRAP (7)
600'
CONSTRUCT (7) 6' WIDE SPILLWAY
30'
240' (4' BOT. DITCH) (7)
NOTE! PLACE TYPE III, BARRICADE @ INTERSECTION OF HELGEMO RD AND CHICAUGON MINE RD WITH A W20-3.
PROJECT LENGTH = 1450'
TYPE III, BARRICADE
W/ W20-3
US-2
IRON RIVER

# TYPICAL X-SECTION




② SEE KEY DETAIL

# TYPICAL X-SECTION

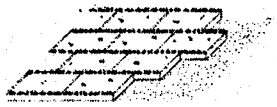


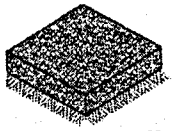
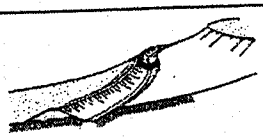

* OR SUPERELEVATION

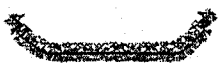
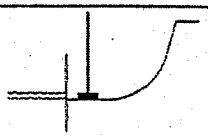
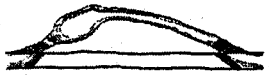
(3) SEE KEY DETAIL

## APPLICABLE SOIL EROSION AND SEDIMENTATION CONTROL MEASURES

A = SLOPES
B = STREAMS AND WATERWAYS
C = SURFACE DRAINAGEWAYS
D = ENCLOSED DRAINAGE (INLET & OUTFALL CONTROL)
E = LARGE FLAT SURFACE AREAS
F = BORROW AND STOCKPILE AREAS
G = MDEQ PERMIT MAY BE REQUIRED

| KEY | DETAIL | CHARACTERISTICS | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|---|
| 1 | DELETED<br>SELECTIVE GRADING AND SHAPING | DELETED<br>Refer instead to<br>VEGETATED BUFFER STRIPS (KEY 6) | | | | | | | |
| 2 |  <br>GRUBBING OMITTED | Retains existing root mat which assists in stabilizing slopes.<br>Assists in the revegetation process by providing sprout growth.<br>Reduces sheet flow velocities preventing rilling and gullying.<br>Discourages off-road vehicle use. | • | | | | • | | |
| 3 |  <br>PERMANENT/TEMPORARY SEEDING | Inexpensive but effective erosion control measure to stabilize flat areas and mild slopes.<br>Permits runoff to infiltrate soil reducing runoff volumes.<br>Proper preparation on the seed bed, fertilizing, mulching and watering is critical to its success. | • | | • | | • | • | |
| 4 | DELETED<br>SELECTIVE GRADING AND SHAPING | DELETED<br>Refer instead to<br>VEGETATED BUFFER STRIPS (KEY 6) | | | | | | | |
| 5 |  <br>SODDING | Provides immediate vegetative cover such as at spillways and ditch bottoms.<br>Proper preparation of the topsoil, placement of the sod, and watering is critical to its success. | • | | | | • | • | |
| 6 |  <br>VEGETATED BUFFER STRIPS | Reduces sheet flow velocities preventing rilling and gullying.<br>Assists in the collection of sediments by filtering runoff.<br>Assists in the establishment of a permanent vegetative cover | • | | | | • | | |

| KEY | DETAIL | CHARACTERISTICS | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|---|
| 7 |  RIPRAP | Used where vegetation cannot be established.<br>Very effective in containing high velocity flows.<br>Dissipates water energy at discharge points.<br>Should be placed over a Geotextile Filter Fabric. | • | • | • | • | | | • |
| 8 |  AGGREGATE COVER | Can be used in any area where a stable condition is needed for construction operations, equipment storage or in heavy traffic areas.<br>Reduces potential soil erosion and fugitive dust by stabilizing raw areas. | • | | | | • | • | |
| 9 |  BENCHES | Reduces sheet flow velocities preventing rilling and gullying.<br>Assists in the collection and filtering of sediments.<br>Provides access for stabilizing slopes. | • | | | | | • | |
| 10 |  DIVERSION DIKE | Assists in the diversion of runoff to a stable outlet or sediment control device.<br>Reduces sheet flow velocities preventing rilling and gullying.<br>Collects and diverts runoff to properly stabilized drainage ways.<br>Works well with DIVERSION DITCH (KEY 11) | • | | | | | • | • |
| 11 |  DIVERSION DITCH | Assists in the diversion of runoff to a stable outlet or sediment control device.<br>Reduces sheet flow velocities preventing rilling and gullying.<br>Works well with DIVERSION DIKE (KEY 10) | | • | | | | • | • |
| 12 |  DIVERSION DITCH AND DIKE | Assists in the diversion of runoff to a stable outlet or sediment control device.<br>Reduces sheet flow velocities preventing rilling and gullying. | | • | | | | • | • |
| 13 |  GRAVEL FILTER BERMS | Useful in filtering flow prior to its reentry into a lake, stream or wetland.<br>Works well with SEDIMENTATION TRAP (KEY 20) and TEMPORARY BYPASS CHANNEL (KEY 35).<br>Not to be used in lieu of a CHECK DAM (KEY 37) in a ditch. | | • | | • | | | • |
| 14 | DELETED<br>BRUSH FILTERS | DELETED<br>Ineffective erosion control device.<br>Refer instead to<br>GRAVEL FILTER BERMS (KEY 13) | | | | | | | |

| KEY | DETAIL | CHARACTERISTICS | A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|---|---|---|
| 31 |  DROP INLET SEDIMENT TRAP | A Drop Inlet Sediment Trap is a temporary device that can be used in areas where medium flows are anticipated. Effective in trapping small quantities of sediments prior to water entering the drainage system. Can be used in areas of low to medium flows. | | | • | | • | | |
| 32 |  RIPRAPPED FORD | Used to minimize erosion in areas where a stream will be crossed a minimum number of times by vehicles or equipment. Geotextile Filter Fabric must first be placed on the stream bottom before riprap is placed. For frequent crossings of a watercourse use a TEMPORARY STREAM CROSSING WITH CULVERTS (KEY 29) or TEMPORARY STREAM CROSSING WITH BRIDGE (KEY 40). | | • | | | | | • |
| 33 |  STREAM BED PROTECTION | Placing Stream Bed Protection is an effective method of stabilizing high quality streams and rivers, which have been disturbed through construction activities, or is in a raw or eroding condition as a result of construction activities. | | • | | | | | • |
| 34 |  STEEL SHEET PILING COFFERDAM | Used to create a dry construction site and protect the stream from raw erodible areas. Must be pumped dry or dewatered according to DEWATERING (KEY 55). | | • | | | | | • |
| 35 |  TEMPORARY BYPASS CHANNEL | Utilized when a dry construction area is needed. Isolates and protects stream flows from raw erodible areas minimizing erosion and subsequent siltation. Can incorporate a large SEDIMENT BASIN (KEY 21) and multiple GRAVEL FILTER BERMS (KEY 13) to remove sediments from water. | | • | | | | | • |
| 36 |  CONSTRUCTION DAM | Used to create a dry or slack water area for construction. Protects the stream from raw erodible areas. Can be created out of any non-erodible materials such as SAND AND STONE BAGS (KEY 24), a gravel dike with clay core or plastic liner, steel plates or plywood. | | • | | | | | • |
| 37 |  CHECK DAM | Can be constructed across ditches or any area of concentrated flow. Protects vegetation in early stages of growth. A Check Dam is intended to reduce water velocities and capture sediment. A Check Dam is not a filtering device. | • | | • | | | • | |
| 38 | DELETED WEIR | DELETED Refer instead to SEDIMENT TRAP (KEY 20) SEDIMENT BASIN (KEY 21) SAND AND STONE BAGS (KEY 24) | | | | | | | |